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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,471	02/09/2004	William E. Sobel	20423-08314	1357
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SYMANTEC/ FENWICK SILICON VALLEY CENTER 801 CALIFORNIA STREET MOUNTAIN VIEW, CA 94041			EXAMINER VU, TUAN A	
			ART UNIT 2193	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/775,471

Applicant(s)

SOBEL, WILLIAM E.

Examiner

Tuan A. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:6/30/06;4/26/06;5/09/05;4/21/05.

DETAILED ACTION

1. This action is responsive to the application filed 2/9/2004.

Claims 1-32 have been submitted for examination.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 2, 21, 27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13, 41 of copending Application No. 10,642,355 (hereinafter '355) in view of Sobel, USPN: 6,205,558 (hereinafter '558).

Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following observations.

Following are but a few examples as to how the certain claims from the instant invention and from the above copending application are conflicting.

As per instant claim 2, '355 claim 13 also recites method for roll-back via managing rollback with determination whether rollback is secure, and rolling back responsive to a state being managed or monitored. Claim 13 does not explicitly disclose rollback manager to store in a non-reversible storage a reboot indicator during deployment of a modification, and responsive to the indicator, rolling the system state back to a restore point. Claim 13 recites restoring to a rollback state hence has taught rolling back system state to a restore point. Further, claim 13 recites performing remediation actions prior to or during roll-back while determining safe state to rollback via displaying message or receiving user input. The remediation technique via interfacing with the user for supporting a update/deployment process success or failure and in which a situation requiring remediation by a reboot was a known concept. Sobel discloses user providing a reboot indicator using input command (e.g. *rebooted 414 ... by a user* - col. 4, lines 26-37 Note: such GUI command reads on monitored event being captured as data in a non-reversible storage – such as GUI instance) as a GUI event to remedy to a non-successful upgrade process. It would have been obvious for one skill in the art at the time the invention was made to implement '355 interface so that the remediation actions include receiving user input as indicator event (as taught by Sobel) to be monitored by a roll-back manager such that the reboot command can effectuate remediation directive needed in order to support the subsequent execution by the roll back action per se by '355.

Instant claims 21 and 27 are medium and system version of instant claim 2, hence would be treated as obvious variation of the teachings of '355 claim 2 (**and claim 41**, a Beauregard version of '355 claim 2), in light of the rationale set forth above using Sobel to

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render obvious the limitation referred to as ‘store in a non-reversible storage a reboot indicator during deployment of a modification’.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the following indefinite sequence: ‘reading ... after a reboot of the computer, before the booting ...’ (lines 6-7). One of ordinary skill in the art would not be apprised on whether the *reading* to determine on the legitimacy of the reboot is prior to or subsequent to some reboot of the system. This will be treated as though the reading is done prior to recovery, hence prior to a potential reboot. Lacking proper definite teaching, the claim remains improper as to statutorily establish the true extent of what is deemed *metes and bounds* part of the Invention exactly as it was conceived. Claims 14 and dependent 16 are hence rejected for leading to an indefinite language that is rendering any usage of the invention hampered.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sobel, USPN: 6,205,558 (hereinafter Sobel)

As per claim 1, Sobel discloses a computer implemented method for rolling back a system state after a modification failure, the method comprising the steps of:

a rollback manager creating a restore point on a computer (col. 2, lines 56-65);

the rollback manager monitoring a reboot indicator (e.g. col. 4, lines 26-37 – Note: event due to system failure prompting users for a reboot, or to automate system reboot reads on event being monitored leading to reading user input or system invocation for reboot) to detect an unexpected reboot (e.g. step 418, Fig 5 – Note: interrupted upgrade leading to system reboot or user-command reboot reads on unexpected reboot) during deployment of a modification; and

the rollback manager configuring the computer responsive to the reboot indicator (e.g. *earlier, valid state* - col. 6, lines 5-13; Fig. 2-3).

Sobel does not explicitly disclose storing a reboot indicator in non-revertible storage; but based on a deployment of upgrade and monitoring of an indication that a recovery program has to be invoke to restore a valid earlier state (e.g. Fig. 2-3), the suggestion that a dynamically monitored event cannot be part of a revertible storage is necessary. Hence, it would have been obvious for one skill in the art at the time the invention was made to provide a runtime storage of a event indicator such that of a system call for reboot or a user's command for a reboot as disclosed by Sobel (e.g. col. 4, lines 26-37) so that this indicator is not part of the boot record or recovery FAT system (see Fig. 1-2) when partially modified disk is unstable as explained in

Sobel (e.g. col. 5, lines 6-46; step 418, Fig 5) so that a cleaning process would have to take place to restore the disk and FAT system to a more stable previous state (e.g. Fig. 2-3)

As per claim 2, Sobel discloses wherein responsive to the reboot indicator indicating that at least one unexpected reboot occurred during the deployment of the modification (e.g. col. 5, lines 6-46), the rollback manager rolling back the system state of the computer according to the restore point (e.g. Fig. 2-3 – Note: state G and K in Fig. 3 read on recovering to restore a previous stable point G).

As per claim 3, Sobel discloses the rollback manager auditing the computer (e.g. col. 5, lines 37-46) and (in view of obviousness rationale in claim 1) storing in non-reversible storage information concerning at least one currently executing user process (Note: event based user input reads on user process – see col. 4, lines 26-37); and

at least one currently open listening port and one system process (Note: event leading to a system reboot or user command disclose listening port).

As per claim 4, Sobel discloses responsive to the reboot indicator indicating that no unexpected reboots occurred (Note: no expected reboots treated as successful modification – step 408, YES Fig. 4; step 418, YES – Fig. 5) during the deployment of the modification, and the rollback manager performing an appropriate action responsive to results of the comparison (e.g. col. 6, lines 5-13; Fig. 2).

But Sobel does not explicitly disclose wherein the rollback manager re-auditing the computer comprises comparing re-audit information to the stored audit information. But Sobel discloses the determination by the manager that attempts would have to be repeated to copy a valid FAT system to a place of a failed/invalid file system (e.g. col. 5, lines 23-46); therefore, a

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effect of comparing data previously recorded (stored audit data) as recovery data with a data recently partially installed (re-audit data) is strongly suggested. It would have been obvious for one skill in the art at the time the invention was made to implement the determination process as described above with a process as to comparing of re-audit information to a stored audit information as suggested above, because there must be a means to construe when the a properly restored state is achieved (e.g. Fig. 2-3 – Note: state G and K in Fig. 3 read on recovering to restore a previous stable point G), without which the recovery manager would not be able to deem when a properly restored file system would be in place.

As per claims 5-6, Sobel (in view of the rationale as set forth in claim 4) discloses responsive to the comparison revealing that at least one item from the initial audit is no longer present on the computer (e.g. step 408, NO - Fig. 4; step 418, NO – Fig. 5), the rollback manager rolling back the system state of the computer according to the restore point (e.g. Fig. 2-3 – Note: state G and K in Fig. 3 read on recovering to restore a previous stable point G); and responsive to the comparison revealing that all items from the initial audit are still present on the computer, the rollback manager deeming the computer stable (Note: restored state deemed stable - Fig. 2-3 – Note: state G and K in Fig. 3 read on recovering to restore a previous stable point G).

As per claim 7, Sobel does not disclose clearing the reboot indicator; but in view of the event monitoring in that the indicator applies to only when an unexpected failure is detected (col. 4, lines 26-37), it would have been obvious for one skill in the art at the time the invention was made to reset the storage location reserved for this event indicator in order to enable reuse of the storage for another user application process or system invocation detection.

As per claim 8, Sobel (in view of the rationale as set forth in claim 4) discloses the rollback manager deploying rollback capability on the computer (e.g. Fig. 2-3); and the rollback manager storing, in non-revertible storage, information concerning deployment of the rollback capability on the computer (e.g. MBR, Partition, record – see Fig. 1-4); wherein the rollback manager deeming the computer stable further comprises the rollback manager disabling the deployed rollback capability (Note: disabling a recovery manager when the restoring is achieved is inherent to the restored state K – Fig. 3).

As per claim 9, Sobel discloses comparing (by the rollback manager) re-audit information to the stored audit information (re claim 4). And as far as for the limitation as to waiting for a specified period of time before re-auditing the computer, in view of the processing needed to realize the effect of copying files (see col. 5, lines 23-46) a latency is therefore disclosed prior to applying comparing of re-audit information (re claim 4).

As per claim 10, in view of the repeated attempts as set forth by Sobel (e.g. col. 5, lines 23-46) in claim 4, Sobel (in view of the obviousness rationale as set forth therein) discloses repeating a specified number of times at specified intervals (see latency of claim 9):

responsive to the reboot indicator indicating that no unexpected reboots occurred during the deployment of the modification, the rollback manager re-auditing the computer, and comparing re-audit information to the stored audit information; and the rollback manager performing an appropriate action responsive to results of the comparison (refer to the rationale of claim 4).

As per claims 11-12, Sobel discloses the rollback manager configuring the reboot indicator to indicate that a modification (e.g. step 408-412, Fig. 4; col. 4, lines 26-37) is to be

deployed; the rollback manager configuring the reboot indicator to indicate that the deployment of the modification is expected to reboot the computer (Note: configuring system call and user directive as event to monitored reads on configuring of reboot indicator based on which to deploy further copying or reboot and recovery).

As per claim 13, Sobel discloses the rollback manager monitoring deployment of the modification (e.g. Fig. 4-5); and the rollback manager configuring the reboot indicator (refer to claims 11-12) responsive to the deployment (e.g. col. 4, lines 26-37) requesting a reboot of the computer.

As per claim 14, Sobel does not disclose responsive to detection of an unexpected reboot during deployment of a modification, the rollback manager reading the reboot indicator (after a reboot of the computer – see USC 35 § 112), before the booting of an operating system; and determining, based on the reboot indicator, whether the reboot was legitimate. But based on the event monitoring in following the upgrade application (see Fig. 4-5) by Sobel, the determination of whether invocation or request for a reboot due to unexpected failure would have to be a necessity; and it would have been obvious for one skill in the art at the time the invention was made to implement a determination step for assessing whether such request (for a system reboot) would be proper prior to applying resources needed to execute such reboot, because committing such resources can be taxing in view of the steps taken by Sobel to recover the system to a stable restored state (see Fig. 1-3)

As per claim 15, based on the rationale of claim 7 and 14, the limitation as to (the rollback manager) updating the reboot indicator to indicate the occurrence of the reboot would

also have been obvious because event monitoring results are either cleared/discarded or tracked and analyzed in order not to confuse with other runtime event instances.

As per claim 16, refer to the obvious rationale of claim 7.

As per claim 17, Sobel discloses reboot indicator comprising at least one attribute from a group of attributes such as: an indication of whether a reboot is expected (e.g. col. 4, lines 26-37); and

an indication of whether a modification is being deployed (step 408-412, Fig. 4; step 418, YES – Fig. 5), counter of executed reboots (refer to claim 15 for occurrence of reboot to be cleared or updated)

As per claim 18, Sobel discloses the rollback manager deploying rollback capability on the computer (refer to claim 1); and the rollback manager storing, in non-revertible storage, information concerning deployment of the rollback capability on the computer (refer to claim 3).

As per claim 19, Sobel discloses the rollback manager rolling back the system state of the computer according to the restore point; and the rollback manager disabling the deployed rollback capability (refer to *disabling* limitation being addressed in claim 8).

As per claim 20, Sobel discloses a computer readable medium containing a computer program product for rolling back a system state after a modification failure, the computer program product comprising:

program code for creating a restore point on a computer;

program code for monitoring the reboot indicator to detect an unexpected reboot during deployment of a modification; and

program code for configuring the computer responsive to the reboot indicator;

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all of which limitations having been addressed in claim 1.

Sobel does not explicitly disclose program code for storing a reboot indicator in non-reversible storage; but this limitation has been addressed in claim 1.]

As per claims 21-25, refer to claims 2-6, respectively.

As per claim 26, Sobel discloses a computer system for rolling back a system state after a modification failure, the computer system comprising

a creation module,

a monitoring module,

a computer configuration module, communicatively coupled to each other, for performing, respectively:

create a restore point on a computer;

monitor the reboot indicator to detect an unexpected reboot during deployment of a modification, the monitoring module being communicatively coupled to the storage module; and

configure the computer responsive to input from the monitoring module concerning the reboot indicator, the computer configuration module being communicatively coupled to the monitoring module;

all of which steps having been addressed in claim 1.

However, Sobel does not explicitly disclose a storage module to store a reboot indicator in a non-reversible storage, the storage module communicatively coupled to the creation module. But this non-reversible storage for a reboot indicator has been addressed (as obvious) in claim 1.

As per claim 27, Sobel discloses

a rollback module, configured to roll back the system state of the computer according to the restore point, responsive to input (e.g. col. 4, lines 26-37 – Note: user command for reboot reads on input) from the monitoring module indicating that at least one unexpected reboot occurred during the deployment of the modification, the rollback module being communicatively coupled to monitoring module and to the computer configuration module (Fig. 2-3).

As per claim 28, Sobel (in view of the obvious rationale of claim 26) discloses: an auditing module, configured to audit the computer, the auditing module being communicatively coupled to monitoring module and to the storage module; wherein the storage module is further configured to store, in non-reversible storage, information concerning at least one item from a group of items consisting of:

- at least one currently executing system process;
- at least one currently executing user process; and
- at least one currently open listening port (refer to claim 3)

As per claim 29, Sobel (in view of the obvious rationale of claim 26) discloses, responsive to input from the monitoring module indicating that no unexpected reboots occurred during the deployment of the modification; the computer system further comprising a comparison module, configured to compare re-audit information to the stored audit information, the comparison module being communicatively coupled to the auditing module and to the computer configuration module; wherein the computer configuration module is further configured to perform an appropriate action responsive to input from the comparison module; all of which limitations having been addressed in claim 4.

As per claim 30, Sobel discloses wherein:

the rollback module is further configured to rollback the system state of the computer according to the restore point, responsive to input from the comparison module indicating that at least one item from the initial audit is no longer present on the computer, wherein the rollback module is communicatively coupled to the comparison module (refer to claim 5).

As per claim 31, Sobel discloses:

a stability deeming module, configured to deem the computer stable, responsive to input from the comparison module indicating that all items from the initial audit are still present on the computer, the stability deeming module being communicatively coupled to the comparison module (refer to claim 6).

As per claim 32, Sobel discloses computer implemented method for auditing a computer system state, the method comprising the steps of:

a rollback manager auditing the computer (refer to claim 1); (in view of the obviousness rationale as set forth in claim 1 regarding *non-reversible storage*) discloses storing in non-reversible storage information concerning at least one item from a group of items consisting of at least one currently executing system process; at least one currently executing user process (refer to claim 3); and at least one currently open listening port (refer to claim 3).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (571) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571)272-3756.

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The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 (for non-official correspondence - please consult Examiner before using) or 571-273-8300 (for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan A Vu
Patent Examiner,
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September 9, 2007